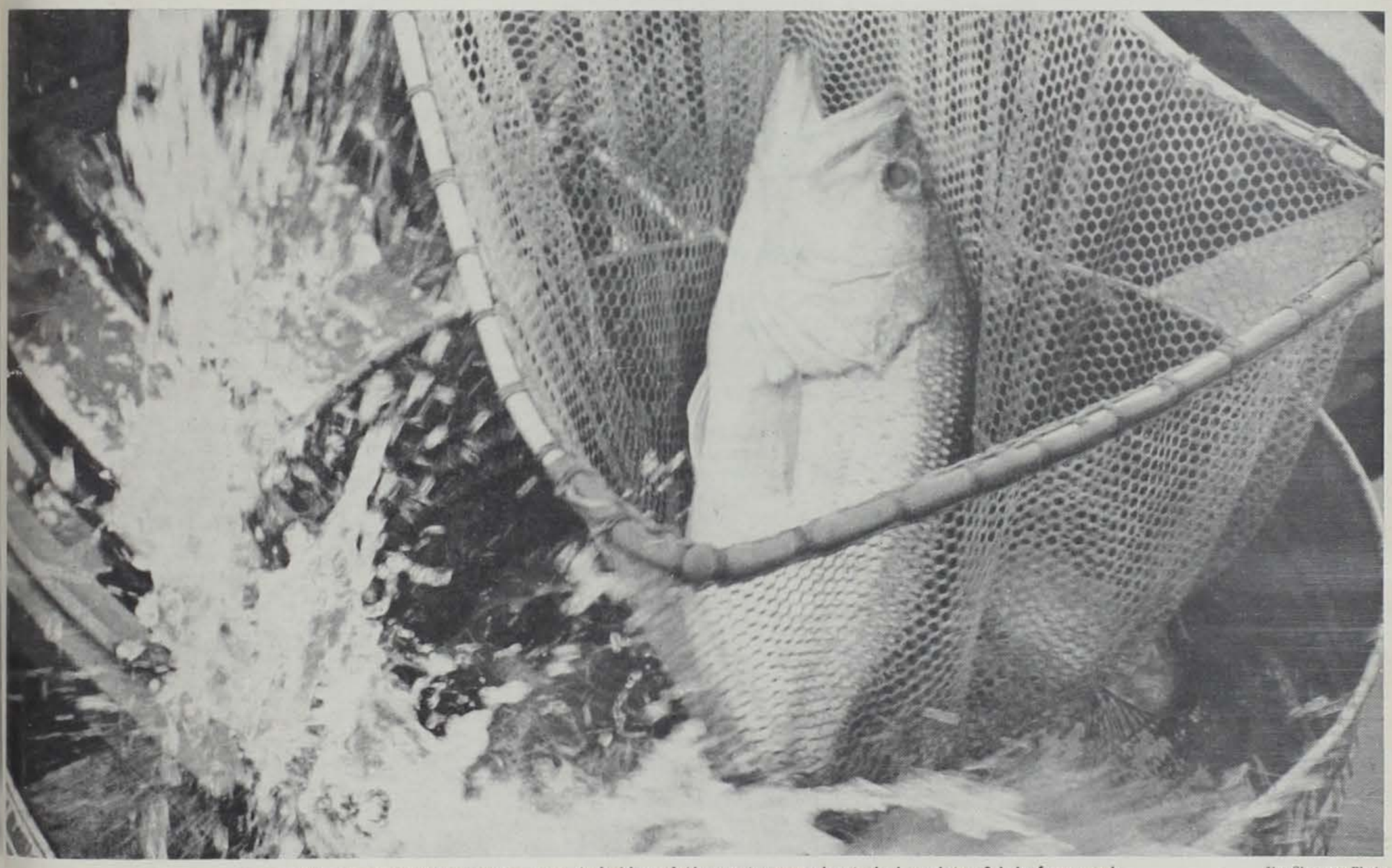
Volume 24 April, 1965 Number 4



The battling largemouth bass is the most desirable and the most commonly stocked predator fish in farm ponds. Jim Sherman Photo.

FARM YOUR FARM POND

Jim Mayhew
Fisheries Biologist

Did you ever have the opportunity to just sit on the bank of a small ond and wonder what life would be like beneath the surface of the vater? Compared to our own complex life in the world today with unar exploration, nationalistic confrontation, and sophisticated rock- try it must be a simple uncomplicated life. Yet each and every pond s a separate biological entity where life is created, exists for a time, nd ceases. No matter how simple this life seems to mankind, organ- sms within this environment are also possessed with inner stresses and never ending search for the basic necessities of life. The point of his is that ponds are also living communities, and management of this esource will only be productive as long as the pond is treated as such.

Within the past decade Iowa has experienced a rapid increase in the umber of farm ponds. The Soil Conservation Service estimates there re in excess of 34,000 farm ponds in our state today. Individually they re relatively small bodies of water; collectively they impound more han 17,000 surface acres of water.

Most of these ponds are designed and constructed for multiple use. he multipurpose pond is not only for the production of fish; livestock vater, boating, swimming and a place for family outdoor recreation an easily be included.

Construction, Care, and Livestock

Construction of farm ponds is usually, by necessity, completed as economically as possible. Earthen dams and embankments with simple spillways and drainage outlets are most satisfactory. If small streams, springs or seeps are utilized for water supply, provisions for bypassing excessive water must be considered. Ponds constructed for trapping runoff are also reliable. Runoff ponds should contain between 10 and 30 acres of vegetated watershed for each acre of water impounded. Above all, the watershed must have good ground cover to prevent erosion and siltation.

In Iowa, depth is one of the most important factors. There should be approximately 8 feet of water over one-quarter of the pond. If, for any reason, the water level fluctuates greatly, the depth should be increased to prevent winter killing of fish. Size and shape of the pond is unimportant although ponds of one-quarter acre in size or larger are recommended.

Livestock should never be allowed direct access to the water. They trample the banks, muddy the water and are a general nuisance. Water for livestock can easily be provided through troughs or similar devices piped below the dam. If this can not be done, fenced watering lanes should be provided for the animals to the margin of the pond.

(Continued on page 32)

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CIRCULATION THIS ISSUE.....52,000

COMMISSION MINUTES

March 2, 1965

LANDS AND WATERS

The Commission approved an order to remove a motor vehicle from Lake Manawa.

Approval was given to contracts for rip-rapping on Storm Lake, Five Island Lake, Silver Lake in Dickinson County, East and West Okoboji and North Twin Lake.

Approval was given to a cooperative agreement with the City of Arnolds Park for the development of an access area to Minnewashta Lake.

Approval was given for a $400 settlement for .919 acre adjacent to a road construction project at Black Hawk Lake.

Approval was given for the appointment of a park conservation officer trainee.

The retirement of Roy Reed, Central Shop Manager at Lake MacBride State Park, was announced.

Boat concession rates were approved to remain at the same cost as previous years.

A meeting explaining to the public the various types of recreation planned for the Shimek State Forest including the recently purchased federal lands will be held March 24 at Fort Madison.

An order was issued for a staff member to inspect and make recommendations concerning a request for a permit for dock loading facilities construction on the Mississippi River at Clinton, Burlington and Muscatine.

The Commission met with a delegation from the Lake View Heights Corporation at Rock Creek to discuss an access across state park land to this area.

FISH AND GAME

Approval was given to exercise an option for purchase of 20 acres from Baaken at a cost of $925, located on South Bear Creek in Winneshiek County.

Approval was given to exercise an option for the purchase of 62.5 acres of land from Hoffman at a cost of $4,500, located on Grannis Creek in Fayette County.

Approval was given to the State Highway Commission for a permit to widen a highway adjacent to the Hull Strip Mine Area in Mahaska County.

Approval was given to a request by the Fish and Game Division to advertise for bids for the purchase of a dragline.

Authorization was given to move an historical marker to the Marble Beach Area adjacent to Spirit Lake if all interested parties are in agreement and with no expense to the Commission.

A report was given concerning game cover plantings on state highways.

Approval was given to a priority list for fish and game construction.

Approval was given for the appointment of a unit game manager at Bays Branch in Guthrie County.

COUNTY CONSERVATION ACTIVITIES

Ida County received approval for the acquisition of 3.85 acres of land by lease, at a total cost of $20 per year for the development of a small county park for picknicking.

Monroe County received approval for the acquisition of one additional acre of land by a 10-year lease at a total cost of $1.00 for use in conjunction with a highway rest area on U. S. Highway 34, nine miles west of the town of Albia.

O'Brien County received approval for the acquisition of the Litka Park Area consisting of two acres of land as a gift in the southeastern part of the county for the development as a picnic area.

Hancock County received approval for a request to turn over one acre of land located in the northeast corner of the state-owned East Twin Lake Area adjacent to the existing parking area in Hancock County under a 25 year management agreement in order that the County Conservation Board may install a few picnic tables, picnic fireplace and an automatic night light at this location.

Crawford County received approval for a development plan for Nelson Park as a multiple-use outdoor recreation area.

Crawford County received approval for a development plan for a safety rest area located on U. S. Highway 30 for use by travelers and people living in that vicinity.

Green County received approval for a development plan for Oak Hill Park located adjacent to U. S. Highway 30 to be used primarily for picnicking and as a safety rest area.

Marshall County received approval for a development plan for the Van Cleve Park as a playground and picnic area on what was formerly the public school grounds of the Van Cleve School.

Pottawattamie County received approval for a development plan for Old Towne Park primarily for picnicking, primitive camping and access to the Nishnabotna River.

GENERAL

Approval was given to a resolution expressing the sympathy of the Commission and Staff to Governor Hughes in the recent loss of his father.

Travel was approved to the Missouri Basin Inter-Agency Committee at Atchinson, Kansas; C servation Business Managem Association Committee Meetin Chicago; the Midwest Pheas Council Meeting at Leaming Ontario; to Nebraska to acquir Sandhill Crane; and eight blan travel authorities for various sonnel to travel short distan across adjacent state lines in formance of their duties.

FISH AND GAME
CONSERVATION OFFICER DIRECTORY

Name	County	Address
Mickey Anderson	Clinton	523 Second Ave., Clinton
Glen Angell	Bremer-Chickasaw	303 N. Locust, New Hampt
Wesley Ashby	Fayette	Fayette
Jim Baldwin	Clay-O'Brien	121 W. Tenth, Spencer
Bill Basler	Dickinson	Box 265, Lake Park
Dick Basler	Woodbury	Box 154, Lawton
Jim Becker	Buchanan-Delaware-Black Hawk (temp)	512 Fourth, Independence
Bill Beebe	Scott	2611 W. Locust, Davenport
Wesley Beecher	Jackson	300 High Street, Bellevue
Jens Bruun	Dubuque	941 Maquoketa Drive, Dubu
Harold Carter	Clarke-Decatur	830 S. Park, Osceola
Ray Cmelik	Crawford-Monona	406 S. Eighth, Mapleton
Berl Downing	Jefferson-Washington	306 E. Briggs, Fairfield
Leo Edwards	Hancock-Wright	714 First Ave. S.E., Clari
Dale Entner	Lee	1627 Ave. G, Fort Madison
Larry Ford	Keokuk-Mahaska	514 Jackson, Box 341, Sigou
Jim Gregory	Butler-Franklin	Box 236, Geneva
Orlan Handeland	Linn	Central City
Glenn Harris	Warren-Marion	602 S. 3rd, Indianola
Walt Harvey	Grundy-Marshall	6 N. Second, Marshalltown
Christie Hein	Mills-Montgomery	7 Elm St., Box 329, Glenwo
Galen Heinkel	Des Moines-Henry	Danville
Jerry Hoilien	Allamakee	26 3rd Ave. N.E., Waukon
Verl Holmes	Palo Alto-Kossuth (temp.)	103 Call St. Emmetsburg
John Horton	Clayton	Box 181, Garnavillo
John Hoth	Howard-Winneshiek	Box 106, Decorah
Lloyd Huff	Polk	2604 37th St., Des Moines
Ermin Jennings	Benton-Tama	1116 E. 3rd, Vinton
Richard Johnson	Harrison-Shelby	213 W. Huron, Missouri Va
Duane King	Pottawattamie	R. 3, Council Bluffs
Ralph Leigh	Poweshiek-Iowa	Box 127, Marengo
Lester Lemke	Adams-Taylor	R. 2, Bedford
Wilfrid Macheak	Worth-Winnebago	Forest City
Jack Meggers	Cerro Gordo	Box 75, Ventura
Bob Mineck	Cedar-Jones	211 13th St., Box 29, Tipto
Bob Moats	Emmet-Kossuth (temp.)	Box 115, Estherville
Dennis Nelson	Dallas-Madison	Van Meter
Gene Newel	Plymouth-Sioux	176 S. Main, Sioux Center
Dan Nichols	Louisa-Muscatine	819 Cedar, Box 202, Muscat
Robert Oden	Wapello	808 E. Woodland, Ottumwa
Marlowe Ray	Adair-Guthrie	509 N. 12th St., Guthrie Ce
Alan Roemig	Mitchell-Floyd	1020 Maple, Osage
Floyd Rokenbrodt	Humboldt-Pocahontas	403 6th Ave. N., Humboldt
Mike Runyan	Jasper	R. 2, Kellogg
Jim Shipley	Fremont-Page	301 Fremont, R. 2, Shenand
Wendell Simonson	Johnson	Oxford
Myron Speer	Davis-Van Buren	R. 1, Bloomfield
Frank Starr	Buena Vista-Cherokee	802 W. 6th, Box 402, Storm
Frank Tellier	Lyon-Osceola	Box 139, Doon
George Tellier	Calhoun-Webster	Box 410, Fort Dodge
Archie Tilley	Ringgold-Union	1101 Orchard Drive, Creston
Mark Uhlenhake	Monroe-Appanoose	203 W. Francis, Centerville
Kenneth Wagaman	Audubon-Cass	Box 226, Atlantic
Jim Wallace	Ida-Sac	Box 32, Lake View
Duane Wilson	Hardin-Hamilton	Alden
Warren Wilson	Boone-Story	121 Cedar, Boone
John Wiltamuth	Lucas-Wayne	715 Lucas, Chariton
Delbert Zmolek	Carroll-Greene	1404 Pinet, Box 148, Jefferso

THE HARD WAY

The hard way to identify a wild animal is the way Turney Kirkland did it recently at Union City, Tenn., according to the Associated Press.

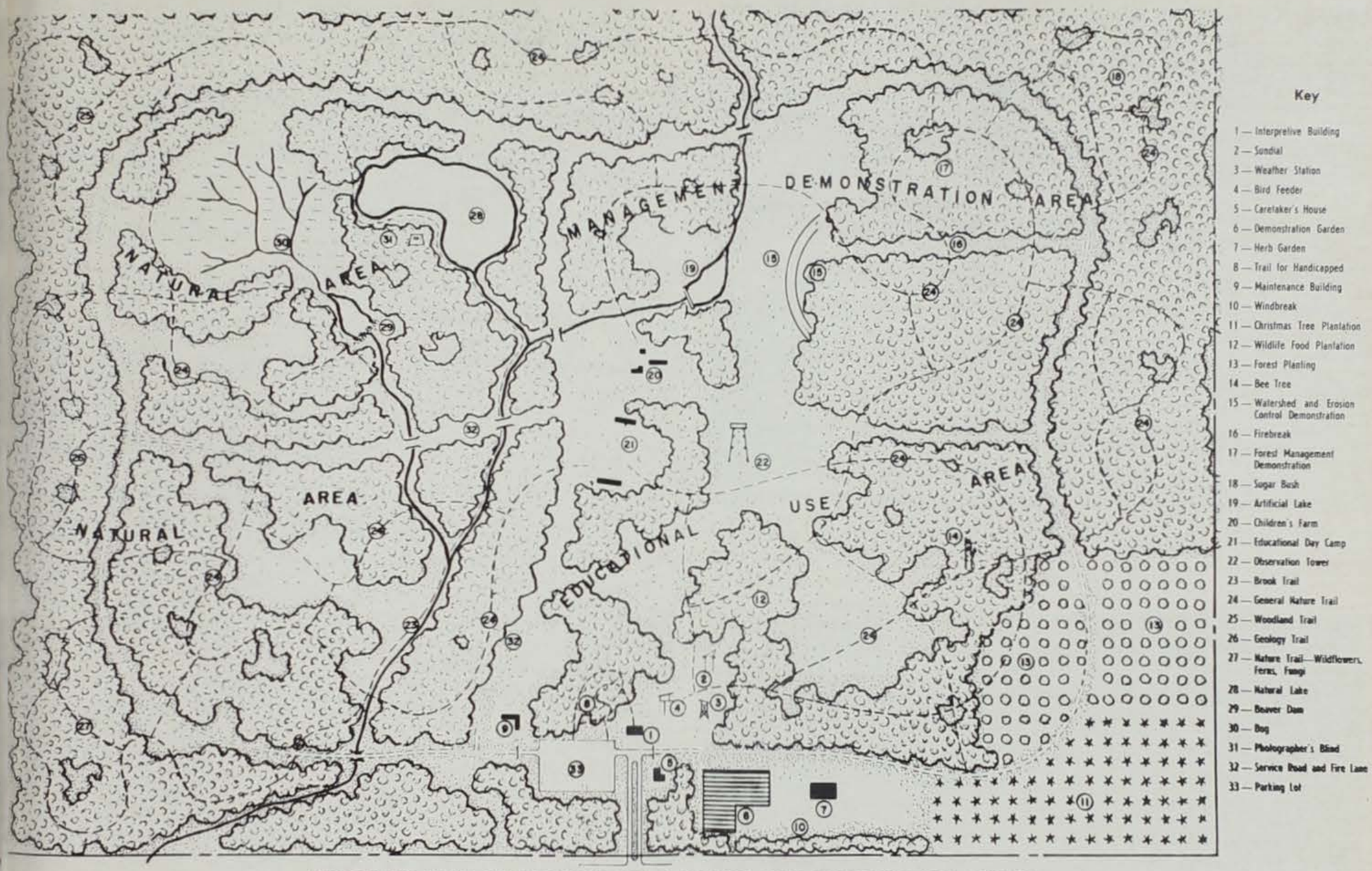
But chances are good that he will never forget what he learned.

Kirkland called a news reporter in his town, saying he had captured a badger in a cage-like trap. Since badgers are quite around Union City, Tenn., the porter went to take a look.

"Looks more like a skunk me," said the reporter.

"Naw, he's just got a white on his head — not all the down his back," corrected K land as he jabbed the animal a stick to get a better view.

Turned out the reporter right.—KEOKUK GATE CITY



SUGGESTED PLAN AND LAYOUT FOR A NATURE AND CONSERVATION CENTER

Approximate size: 320 acres

From PLANNING A NATURE CENTER by Byron L. Ashbaugh.

GREEN ISLANDS FOR LEARNING

Jack Higgins

Let's face it; you and I are members of the rapidly vanishing "olden lays." We are the last remnants of a race that was born and reared n farms and in small towns where every opportunity to learn of nature was ours whether we wanted it or not. The vast majority of our hildren, and the children of the future, barring a civilization destroying catastrophe, will lack this accidental association that educated us the ways of nature. Therefore, we must give thought to what additional courses of action are still open to us in planning so that future enerations may know the out-of-doors as we know and love it.

What has to be done to fill the outdoor needs of future generations? Vill it be sufficient if we, the current rulers, develop new parks, lakes nd preserves? This was the answer proposed for our generation and cted upon by our immediate predecessors some thirty years ago—nd it worked! Consequently, the present course of action is to expand pon this successful formula. The question is, however, whether or ot this path will adequately fill the needs of the future.

The answer is a qualified yes that hinges on our examining and etermining the outdoor educational and recreational needs of a gen- ation that will think of food as something that comes pre-packaged tin and plastic; that will see its world only in terms of geometrical gures rimmed with concrete roadways; that will find itself engulfed ith leisure and beset with ignorance of the world as it exists outside s cities.

Need Outdoor Classrooms

Teaching conservation as part of the school curriculum will help eate awareness, and to some extent, appreciation. Yet the basic oblem is to give people, particularly youngsters, an opportunity to intimate with the out-of-doors in a setting that will assure them e chance to learn. This is something that no schoolroom can provide.

Where will we find such facilities? Not in the city park, although e hasten to admit that even this is better than nothing. What we ed to do is create new facilities that will provide this type of special- ed form of education and recreation. Many places in the over-popu- ted eastern sections of our nation have recognized their responsibility nd have developed areas that are termed "nature centers."

These centers have definite educational objectives. Their first goal is to show that the term "conservation" means more than a fuzzy "something that farmers should practice." Hopefully, people who use the centers come to realize that actions committed by any individual, any businessman, any government agency and so on, has an effect on nature.

In addition, nature center visitors are exposed to the fact that when man manipulates a single renewable resource (water, soil, plants, trees, animals and wildlife) his actions have a corresponding effect on many resources. It is necessary to illustrate this, as a city dweller cannot be expected to know man's depth of responsibility in these matters.

At the same time, the center shows that man can successfully manipulate his environment. It does this by demonstrating that we manage resources for the purpose of increasing the benefits that people may enjoy both here and now and in the future from a wisely managed resource.

An important by-product of a center is the effect it has on the users when they return to their homes. Many times these individuals will be moved to initiate action programs. This often takes the form of lawn improvements, park care, clean-up and planting of community land, and the establishment of wildlife habitat.

These and many other goals may be met through a well planned and effectively programmed nature center where simple approaches to learning are employed. An effective learning tool used at many nature centers is the orientation lecture that prepares each visiting group for what they will see and do during their visit. This requires the presence of a qualified staff or person that is not only expert in the field of natural history, but completely familiar with the program and aims of the center.

Planning a Center

Nature centers should be deliberately planned to be large enough to allow many kinds of field trips. It is through the experiences gained from guided field trips that the concepts of a "living nature" are learned. No other type of classroom or learning device yet invented

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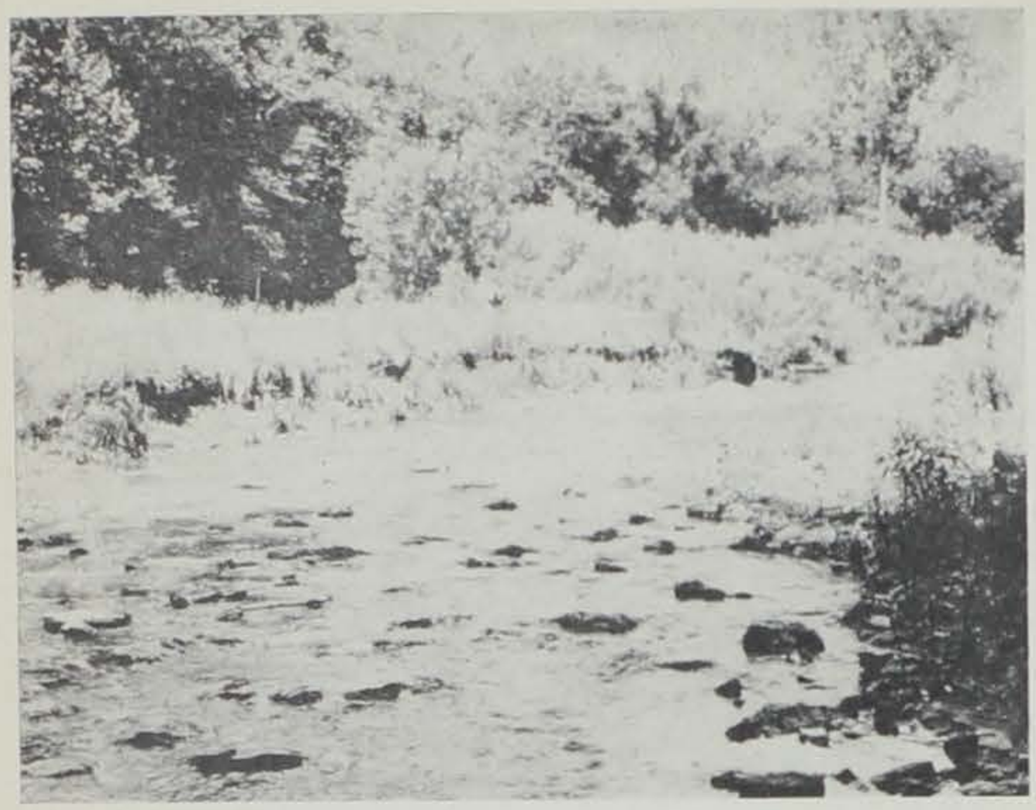
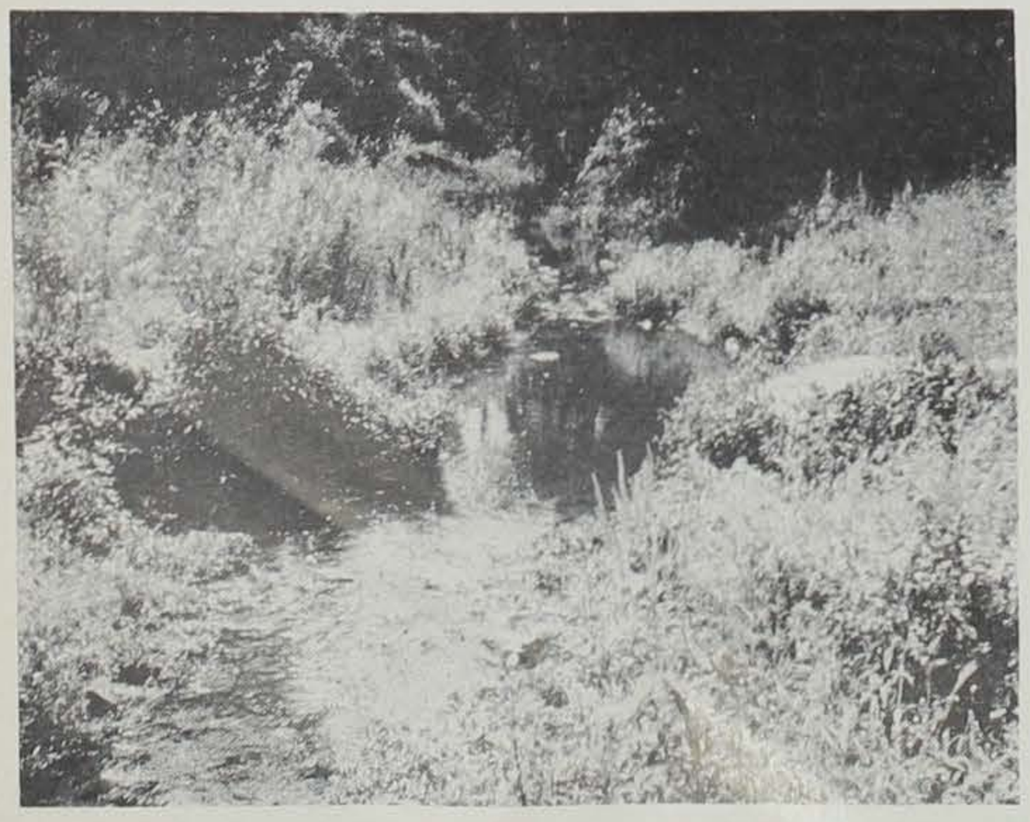


June, 1963: Looking upstream on the section of Elk Creek before the gabions were were installed. Note the eroded bank.

June, 1963: Looking upstream at the newly-installed gabions. Finishing touches are being put on gabion that forms funnel.



August, 1964: Looking downstream through the funnel. Gabions are almost concealed by vegetative cover, and stream channel is deeper and much narrower.

ELK CREEK GETS A FACE LIFT

Roger Schoumacher
Fisheries Biologist

Cultivated or pastured land adjacent to a trout stream is, in ma cases, not beneficial to the stream. Erosion, poor watersheds, and l of stream-side cover contributes to shallow, silt-bottomed streams t are subject to occasional heavy flooding and very low water levels other times. As a result of extensive agricultural land use practic most of Iowa's trout streams have deteriorated from their origi state to the point that only stretches of streams rather than their ent length now provide suitable trout habitat.

A trout stream can be "improved" for trout in a number of way watershed management, control of rough fish, stream bank stabili tion and stream improvement. The latter management tool genera refers to the installation of structures in a stream channel which designed to improve the habitat for trout. These structures usually into one of two categories:

1. Dams or wing dams which are designed to create deep pock or "holes" for trout and control bank erosion.
2. Cover devices or "hides" under which trout can conceal the selves.

Stream improvement devices have been used by fisheries biologi for decades in stream management projects. Although a variety materials have been used to construct the devices, logs and rocks h been most widely used because they are usually available at strea side, are inexpensive and blend with a stream's natural surroundin Approximately two years ago a new type of stream improvement vice in Iowa was installed on Elk Creek in Delaware County by Delaware County Conservation Board under the guidance of Cons vation Commission biologists.

The structure or structures—nine were initially purchased—are cal gabions. Gabions are commercially produced heavy wire baskets whi when installed and filled with rocks, act like one large flexible bould

The Elk Creek project began after the County Conservation Bo purchased more than 1¼ miles of the trout stream and adjacent la Intent upon permanently managing the newly acquired area for rec ation and conservation purposes, the Board decided to undertake installation of stream improvement devices to control several ar of severe bank erosion. After a careful survey of the area, the decis was made to place the initial effort on a short, wide and shallow stre of the stream that was eroding one bank and provided no trout habit

Eight gabions, each about three feet wide, three feet high and feet long, were placed along the eroded bank at 20 to 30 foot interv A ninth gabion of similar size was installed on the other bank oppos one of the series of gabions, creating a narrow funnel for the stre to flow through. Hopefully, this funnel arrangement would, at hi water, dig a hole in the stream bed, while the other gabions would h the erosion of the stream bank and narrow and deepen the stre channel. The devices, each weighing over 4½ tons when filled w limestone rocks, were installed in June of 1963 and got their first t a few weeks later when Elk Creek rose nearly three feet. The resu were encouraging.

There was no evidence of further bank erosion, and the gabi trapped silt and sand up to a foot deep behind them. The stre channel was narrowed considerably. The gabion funnel created a h up to four feet deep and over 30 feet long—one of the best holes the entire stretch of stream.

Subsequent raises in the water level have deposited additional behind the gabions. Watercress, weeds and even willow plantings beginning to take hold to stabilize these new banks and provide sh and cover for the stream. Fishermen already have a well-worn p from the road to the big hole.

Because of the success of this initial test of gabions, future plans the Delaware County Conservation Board include similar stream i provement projects. In addition to gabions, a number of rock and structures have been installed. All are functioning well.

Another experimental device, called a "trash catcher," is being tri Trash catchers are hog-wire fences about two feet high, reinfor with rocks which, at high water, become filled with trash carried the stream and divert water in a desired direction.

Stream improvement work of this type is expensive because of t amount of labor involved in building and maintaining in-stream str tures, and it is not a cure-all. A great deal of stream improveme work has been done in the eastern United States. Studies indica however, that any resulting increase in trout production, if there any, is expensive; and this alone does not merit the high cost of t work. When the preservation of the esthetic qualities of a stream considered, the cost becomes more realistic.

Similar work will be done on Elk Creek, not only so the stream w provide a more suitable environment for the products of our tr hatcheries but so the stream itself will be more appealing to the fish man.

THE HIDDEN HUNTER

Max Schnepf

Market hunting, drought and wetlands drainage have created instability in North America's waterfowl populations for decades, but lead poisoning may write the epitaph of ducks and geese. Unless a solution is found, this tragic by-product of human predation could outstrip the reproductive potential of certain species and force them critically near the point of extinction.

Lead poisoning has taken an annual toll of ducks and geese for several years, especially in the Mississippi Flyway where the mortality is greater than in all other flyways combined. Recently, however, the problem has become much more acute in light of increased hunting pressure and a steady decline in the number of hunting areas.

Estimates are that as high as five percent of the nation's mallard population succumbs to lead poisoning in an average year. A loss of this magnitude equals the annual mallard reproduction on Manitoba's wetlands or the combined annual mallard reproduction in Iowa, Minnesota and South Dakota.

The Problem

The incidence of lead poisoning depends on several factors, including feeding habits, the amount of shot available and the number of ducks and/or geese using an area. A heavily shot over marsh becomes a waterfowl death trap in a matter of years. Over 200 pounds of shot per acre have been screened from the bottom of areas in use for 25 years. Since lead does not corrode in water, the death trap becomes more lethal with each shot.

Lead poisoning usually occurs when birds mistakenly ingest lead shot while feeding on aquatic plants and seeds. Their habit of feeding on marsh bottom vegetation makes dabbling ducks, such as mallards and pintails, particularly susceptible to the disease.

Once the ingested shot reaches the bird's gizzard, digestive juices and sand and grain particles go to work on the heavy metal. A chemical reaction results in a substance toxic to the duck or goose, and slow paralysis sets in.

First, the gizzard loses its function. Wings soon hang limp; tails droop, and breasts become depressed. For days or even weeks the bird may cling to life, all the while gorging itself, yet literally starving to death because its digestive process has been destroyed. If the bird escapes death, chances are good that certain physiological processes will be impaired for life. Just how many shot must be eaten before a duck or goose contracts lead poisoning is unknown; the number probably varies with individual birds. Furthermore, it is difficult to determine how many pieces of shot a bird has eaten because each piece is eventually reduced to minute flakes by the grinding action of the gizzard.

The Solution

The logical solution to the lead poisoning problem is to replace lead shot with shot made from other metals that are non-toxic to waterfowl. Several large firms in the United States have begun work on projects to find a suitable substitute. Most of the work to date has been with iron in annealed or alloyed forms.

The cost of manufacturing annealed (softened) iron shot was once prohibitive. While it is still expensive, the rising price of lead and improved manufacturing techniques have brought it nearer a competitive position with lead. At this point, however, cost is not the main concern. More important is the question: Can iron shot compare ballistically with lead shot?

The Technical Section of the Mississippi Flyway Council—Iowa is a member of the Council—recently conducted a study to determine the effectiveness of iron shot. For two weeks in December, guests at Nilo Farms Shooting Preserve near East Alton, Illinois, participated in the study by testing comparable loads of iron shot and lead shot on mallards. The results were encouraging.

While the No. 4 iron shot was much harder and somewhat lighter than No. 4 lead shot, it performed admirably alongside the soft, dense and ballistically ideal lead shot. Sixty-nine mallards were effectively downed at ranges out to 50 yards.

The iron shot penetrated well and had a tendency to pass completely through the birds. About 30 percent of the dead mallards were found to be shot free; and very few cripples resulted, especially at close ranges.

On the other hand, the iron shot was destructive to the shotguns. Gun barrels were deeply scored. Less than 300 shots opened their full chokes to tight improved cylinders, a condition hardly acceptable to the waterfowl gunner. It may be possible, however, to anneal iron to such a degree that barrel life can be considerably prolonged.

Obviously, the lead poisoning problem was not solved in the Flyway Council's Nilo Farms experiment. A tremendous amount of research and experimental work lies ahead before lead shot can be replaced, but the study does illustrate the revised outlook by state and federal waterfowl biologists on the lead poisoning problem and their impatience to find a solution.

A newly born opossum reaches its mother's pouch by dragging itself up by the front paws.

Even though the armadillo is completely covered by bony coverings, the front of the upper and lower jaws are toothless.

GRANDPA'S SUCKERS

Ron Schara

Old age often has a way of dulling fishing enthusiasm for some folks, especially when climbing river banks and fightin' brush becomes work and not anticipation.

Grandpa isn't quite the fisherman he used to be either, that is until early spring arrives. As soon as the ice is out of the river, an old spark reappears in Grandpa's eyes. The battled cane pole is dragged out of the garage, fish worms are dug and his left knee isn't quite as stiff as it was last month. The wind still may carry a slight chill, but it doesn't dampen his fishin' urge. During Gramp's 70 plus years at the sport, he has caught everything from eels on the Yellow River to turtles on the Mississipp'. But Gramp wasn't only a good fisherman; he also knew when to fish. And come springtime, he knew that lurking in the cold, turbid river waters are some of the finest, eatin' suckers a man could want.

The first time Gramps brought his "surprise" home was quite a shock. Although we knew he was goin' fishin, he never did say what he was going fishing for. And admittedly, we had visions of a good trout supper.

Grandpa wasn't gone more than a few hours when he came back lugging a big pail of fish. Trout? Nope! SUCKERS! Gramp probably didn't notice, but suddenly no one was interested in his "prize" catch . . . until Mom agreed to fix 'em for supper. She fried the suckers according to Grampa's specifications: plenty of grease, a dash of salt and fried to a golden brown. Even the suckers' eggs went into the pan for good measure. That night we didn't sit down for supper to be polite, but if Grandpa could . . . well we could too. Only then did we realize the reason for Grandpa's sudden interest in fishing. The white, flaky meat was absolutely delicious — eggs included. Except for the bones (and suckers have plenty of them), eating them was a pleasure.

Gramp says that the cold, spring water makes the sucker meat more firm than it is during the summer; consequently, they're better

(Continued on page 30)

Jack Kirstein Photo.

Crazy Quail release trap. Letters on the pit wall orient the operator as to direction.

THEM CRAZY CLAY BIRDS

'Round and 'round the pit the release trap goes; where it throws the clay birds nobody knows. When the gunner hollars "pull," anything can happen—straight away, to the right, to the left or back over his head; the little clay disc may sail out at any degree on the compass. This is Crazy Quail, aptly dubbed the great humbler!

Crazy Quail is a simple modification of conventional trap shooting. The revolving release trap is mounted in a circular pit rather than a trap house. The operator throws each clay bird in any direction he chooses and purposely tries to confuse the gunner.

Each shooter standing at his station, 22 yards from the pit, awaits his turn. When it comes, he subconsciously says a prayer and half-heartedly mutters "pull." Usually a look of bewilderment and/or some verbal unpleasantries follow his attempt to hit the elusive clay bird.

If a shooter is confident to the point of being a braggard, this "simple" game is easily complicated. Instead of making all shots from 22 yards, the shooting positions can be graduated from 16 to 27 yards. Furthermore, the trap operator can release the clay bird within a reasonable amount of time rather than immediately after the gunner requests it . . . and oh yes, the shooter's not allowed to change the position of his feet in his attempt to score—just twist and turn.

The whole affair is short and sweet—10 shots apiece and it's all over. Four or five hits is better than average; more than five is excellent; and a straight? Well, he's either got the luck of the Irish or he's a great shot!

Jack Kirstein Photo.

TALK ABOUT FREAKS!

There's one in every crowd! While many hunters are traveling miles and spending hundreds to capture that trophy buck, some guys, like Leland Mickey, finds one in his own backyard.

Mickey, who farms near Missouri Valley, discovered a freak buck (pictured above) in a wooded ravine on his own farm on the second day of the 1964 Iowa deer season. Mickey called Conservation Officer Richard Johnson who destroyed the seriously wounded deer.

In February, the huge rack was officially measured for entry into the Boone and Crockett Club's big game trophy competition. The head scored 214 points, enough to place it 30th on the Boone and Crockett all-time list of "non-typical" white-tail deer heads.

HAVE YOU TENDED YOUR TIMBER LATEL'?

Bruce Plum
District Forester

Most crops require certain cultural practices if they are to be thr y and productive. Timber is no exception to the rule. One timber cultu l practice is called "timber stand improvement" (TSI).

Mention TSI to someone and he will quite likely think about clean g out the brush and making the timber more park-like. Actually t s could have little effect on the growth of the trees and would be a wa e of time, effort and money. TSI is a type of weeding and thinning op - ation which relieves competition between trees and leaves the m t desirable trees in the stand.

Natural growing timber in an undisturbed condition usually has n over population of trees. As a tree becomes larger it requires more d more room to grow. Trees in an undisturbed forest are constan y dying out through competition with each other. This natural thinn g is positive; however, quite slow. While one tree is slowly dying it ll still be interfering with the growth of the tree next to it thereby sl - ing the growth rate of that tree.

The crown of a tree is the manufacturing plant of the tree. It ma - factures the material that wood is made of. Given enough space r the crown to grow in, the tree will continue to grow at a high r e and at the same time maintain high vigor.

Trees in heavy competition are sometimes less vigorous than tr s with plenty of space to grow in. Trees of lower vigor are more s - ceptible to insect and disease attack. Whole forests have been wi d out this way because of a high percentage of low vigor trees occurr g within the stand. A recent example is in Colorado where the spr e bark beetle wiped out thousands of acres of overcrowded forests.

Timber growing as nature would have it consists of species b h desirable and undesirable to man. By letting nature do the thinni g, a straight tree might die in making room for a crooked tree. Possi y a walnut tree might die in competition with a boxelder. Which t e lives or dies is of little concern to nature.

Through scientific processes, foresters have learned what degree f thinning is necessary to give the desired results. Too little thinning ll do little good. Too much thinning will cause trees to become lin y from letting too much light into the stand. Also, too much thinn g can keep the rate of production low as well as not thinning at l. Because man uses the products of the forest he must care for e forest so it will produce forever and at a higher rate than nat e affords.

One of the jobs of a forester is to go into the woods ahead of a I crew and mark the trees which must be removed for the improvem t of the stand. Through the use of an optical device he can tell w t degree of thinning should be done in any one place. The amount f thinning necessary depends upon present density, species and site

Through TSI, man can remove the defective trees letting the bet r formed trees produce pulpwood, lumber, veneer and other forest pr - ucts. In a thinning of this sort, it is possible to alter the spe s composition to favor the most desirable species. For example, in n oak stand, one might weed out low value black oak and leave the m e

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GREEN ISLANDS FOR LEARNING—

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is able to substitute for this experience — and it works for people of all ages and background.

To enable a center to have universal appeal, it is necessary to zone the area. One portion is usually devoted to parking lots, buildings for teaching, and illustrated nature trails. A second section is set aside for demonstration of both wildlife and resource management. A final zone provides a completely natural place for unlabeled nature trails, painting, photography and plant and wildlife sanctuaries.

Completely out of place is land used for such sports as swimming, ball games, hunting and fishing. These are distractions that have no relationship to the total program of the center. In fact, these activities are best handled by organizations and agencies that have such programs as their basic interest.

Only the first tentative steps toward nature center establishments have been made in Iowa. Several County Conservation Boards have created outdoor classrooms for use by school children in the area; a few cities have allowed nature trails on appropriate areas in city parks; and a few private organizations that operate youth camps include a bit of conservation learning in the camp program. These are good developments and need to be practiced more widely. They are not broad enough in scope to adequately reach the numbers needed, however.

How To Begin

The question of how to get a nature center started appears to contain a number of problems—and it does. Fortunately, there are plenty of sources of help to turn to. Citizens of Iowa can talk about the desirability of a nature center project with members of their local County Conservation Boards. These gentlemen have been appointed to their posts because of their concern for the resources that have made America what it is today. They will undoubtedly welcome your conc n and give more than lip service to your ideas.

It may also be possible to recruit the support of some priv e organizations to which you belong, particularly if their goals e nature oriented. These private groups have done much in the p and will continue to act in the future, to help save America's natu l heritage. Some groups in the East have "gone it alone" and establis i outstanding nature centers with private funds. Others have joi y sponsored nature centers with city and county agencies. At any r , the job is there and Americans of all ages and backgrounds are sta - ing tall and getting the job done.

The State Conservation Commission will give help and direction o those interested in nature center projects. In addition, some excell t planning and background material to help you along the trail is av - able in printed form from the National Audubon Society. Perhaps y r local library already has copies of these and other publications. If , they will be able to tell you where to write for copies.

Why not take time now to investigate the problem? Do more th just talk it over among your friends — make it an active interest! P the answer to tomorrow's problem today.

GRANDPA'S SUCKERS—

(Continued from page 29)

eatin'. In fact, during the summer months when the river water has warmed, Grandpa won't even look at a sucker.

The common white sucker, Gramp's favorite, is found in ev y river and stream in Iowa and s quite easy to catch. It may not the most exciting sport, but do t condemn it unless you've tried That applies to many things even eatin' suckers!

The Unpopular Tenant

Ron Schara

Springtime, to most feathered creatures, is a "hurry-scurry" time of year. There are nest sites to be chosen, nests to be built and eggs to be laid.

However, somewhere in the Iowa treetops, one particular bird species merely sits back and bides its time. They are cowbirds or buffalo-birds, a name given to them because of their apparent close attachment to wild or domestic cattle.

The female cowbird doesn't build a nest or look for natural nests. She doesn't incubate her eggs or feed her young. Yet, the cowbird might well be considered the Einstein of Iowa's bird world. Regardless of her shortcomings as a mother — her species survive.

A Parasite

The cowbird is a brood parasite. The female lays her eggs in other birds' nests, then she relies on the unsuspecting hosts or foster parents to hatch and care for her offspring.

Despite the cowbird's unscrupulous behavior, she is, at the most, a very efficient and, indirectly, a "thoughtful" parent. Whatever the cause for her unmotherly actions, the result is a very proficient operation. Of all the cowbirds in the western hemisphere, the brown-headed cowbird is the most advanced in her trade.

Daily Life

A spring day in the life of a cowbird might be something like this. Minutes after sunrise, she already is in search of a vacated nest. Her in-born urge to lay an egg occurs about five times a year. Each time she chooses a different nest. The cowbird has been known to use the nests of over 250 different bird species; consequently, finding a host's nest usually does not pose a problem.

She is aided in her search for a nest by the fact that she is an early morning layer. Many of her favorite hosts leave their nests during this period in search of food. As a result she has ample time to find a nest and deposit an egg. Later in the day or even several days later, the cowbird returns to the scene of her crime and assures the hatching of her egg by destroying the host's eggs. Methodically she punctures them with her short, stout bill.

Because of the gray-colored bird's habit of destroying the host's eggs, another trait has evolved that prevents or helps to prevent her eggs from being destroyed by another visiting cowbird. Late in March, shortly after she returns to her summer residence, the cowbird selects a territory or area that is taboo to other female cowbirds. By selecting a territory and sometimes defending it, she, in effect, is saying that the nests within her territory are hers. Occasionally, these territories overlap, in which case cowbird eggs are often duplicated in one nest. Although the cowbird lays only one egg in each nest, on one occasion four cowbird eggs were found in one song sparrow's nest. But due to the variety in shape and color of the eggs, it was determined that four different cowbirds had visited the nest.

Short Incubation

Once the cowbird's egg is in the nest of an unsuspecting host, it probably will be incubated by the foster parents. But nothing is left to chance. The incubation period of a cowbird's egg, approximately eleven days, is usually shorter than the host's eggs; as a result the alien egg hatches first.

Hatching first in the world of birds has distinct advantages especially to the young cowbird. Like every newly-hatched bird, the adopted cowbird has a phenomenal appetite. The unknowing parents cannot resist the parasite's opened mouth and ironically, because of their instinct to provide food, they often neglect their own eggs. If the host's eggs do hatch, the older and more aggressive cowbird hoards the food supply.

Danger

Despite the precautions inherent in the cowbird, dangers do beset the alien egg. Oft times, the cowbird chooses the wrong host. Some birds are alert to strange objects in their nests and will remove them. Other birds, upon finding the strange egg, will simply build a layer of nest material over it.

If the foster parents are the motherly type and adopt the egg, the unwanted tenant's life is still in the hands of fate. If the food habits of its foster parents are not the same, the young bird's chances of survival are slim. If its foster parents are insect eaters, like the cowbird, adulthood still may never be reached by the cowbird. For example, swallows feed on insects; however, when the young swallows are able to fly, their parents feed them while in flight. Meanwhile, the young cowbird, unable to adapt to this feeding method, is left to die in the nest. Despite these obstacles, studies indicate that approximately one-third of the adopted cowbirds survive.

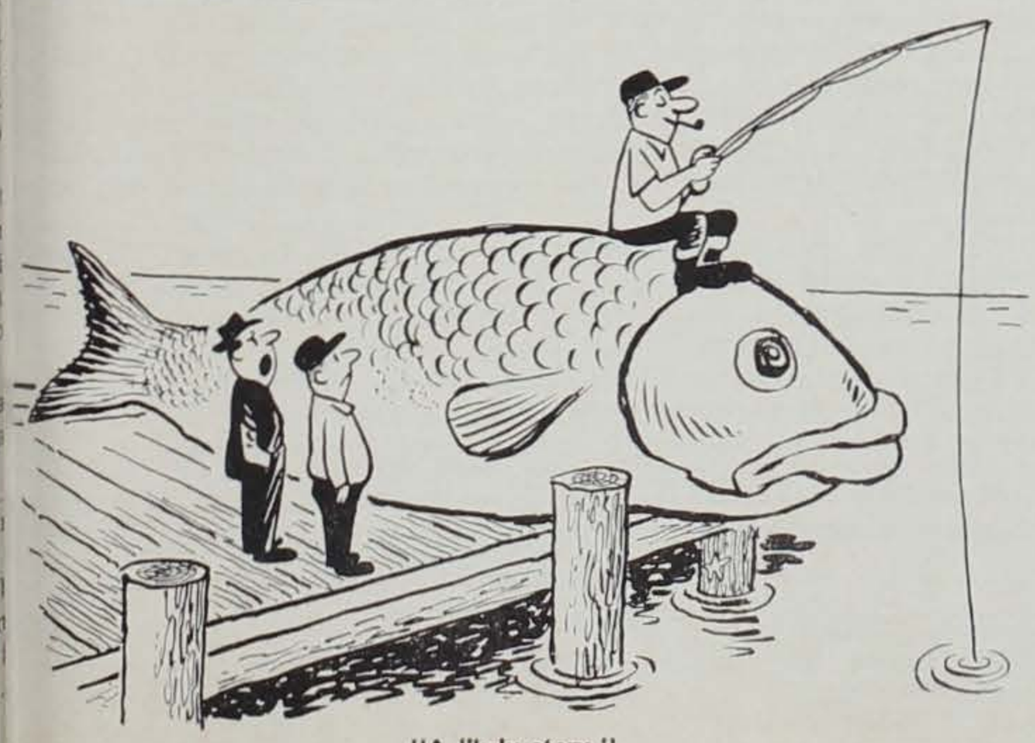
Husbands Galore

After the female cowbird's early morning egg laying activities, she is free of maternal responsibilities. Perhaps because of her lack of responsibilities, it is felt she leads a rather shady love life. She is polyandrous. Which means, she has a harem of male cowbirds. It is not uncommon to see her in the company of two or more male friends. However, there is conflicting evidence as to her associations with the males. Some observers feel she selects only one mate from her followers. One observer even came to this conclusion, "cowbirds are free lovers; they are neither polygamous nor polyandrous — just promiscuous."

Male Cowbirds

Not much has been said about the male brown-headed cowbird and for good reason. He is a rather dull and undemanding mate as far as birds go; but, he has one distinction. The male cowbird is the only bird in the blackbird family with a dark brown head and black body.

Both the male and female cowbirds are sociable and often associate with red-winged blackbirds or other members of the blackbird family. It is one of the smallest birds in that family, but only in size. The inconspicuous cowbirds, by exhibiting brood parasitism, show a highly advanced adaptation to a world where only the most adapt survive. And in the cowbird's own peculiar way, it is doing just that.



"A likely story."

THINGS YOU MAY NOT KNOW

The mistletoe bird of Australia feeds its young while hanging upside down.

* * *

The wild goose has about twelve thousand muscles—ten thousand of which control the action of its feathers.

TREAT YOUR GUN KIND

There are a lot of pet theories on the proper care of guns. But gun care doesn't have to be complicated.

One simple and effective procedure is merely to run a slightly oily rag through the barrel and wipe the outside with a cloth (such as an inexpensive jeweler's cloth), also lightly oiled. Occasionally, remove lead deposits with a cleaning rod and gauze patches (or use a soft, brass bristle brush) along with a proper powder solvent available at any gun store. Pipe cleaners make good helpers for reaching into tiny crevices and hard-to-reach corners.

Of course, too much oil is worse than too little. For cold-weather hunting, guns should be virtually free from oil to keep the working parts from sticking on congested oil. (A little benzine easily removes the oil.)

On hunting trips guns should not be left overnight in a warm room. They may sweat and the abrupt change to early morning air can freeze the condensation in the working parts. Also while out in the field, guns—unloaded and with actions opened — are best propped on their butts, muzzle up, when not in use.—WINCHESTER PROOF.

BEGINNER'S BASIC

The lateral offset of the stock of a shotgun that enables a shooter's eye to be brought in line with the sights is called cast-off or cast-on.

For right handers, cast-off means the gunstock is bent or curved to the right and away from the sighting alignment in lieu of a thin stock so that a shooter with a full face can correctly zero in on his target. Cast-on means the gunstock is bent or curved toward and to the left of a shooter.

For left-handers, the reverse is true: Cast-off means the gunstock is curved away from and to the left of the sighting alignment; Cast-on, curved to the right and toward a shooter.—WINCHESTER PROOF.

The only mammal that is purple in color is the blesbok, a small South African antelope.

* * *

The largest fish is the Whale Shark; the smallest is a goby, less than an inch long.

* * *

The skeleton of an insect is on the outside of the body.

* * *

A snake's teeth are pointed backward to prevent escape of animals captured for food.

* * *

Sea lilies are really animals but they look like the plant for which they are named.

* * *

The butterfly was originally called the flutterby.

FARM YOUR FARM POND—

(Continued from page 25)

Stocking Fish

Fish stocking in farm ponds is usually by individual owners or a governmental agency. Both the State Conservation Commission and Soil Conservation Service offer fish for farm ponds upon application of the owner. The number of species stocked should be kept at a minimum. Best results are achieved by stocking one predator species and one or two forage species. The predators control reproductive capacities of forage fish, and the forage fish in turn furnish a vast food supply for the predators. Without forage fish a major segment of the food resource of the pond is not utilized. Although predators such as largemouth bass are omnivorous and capable of sustaining life by feeding on large aquatic insects and crayfish, forage fish are a major source of food. Standing crops of fish and growth is substantially greater in ponds with predator-forage populations.

The fundamental principle of farm pond management is the establishment and maintenance of a balance between the number of forage and predator fishes so that neither becomes dominant. The ratio between forage and predator fishes in a balanced pond is stable with each attaining optimum growth and ultimately producing the maximum number of desirable fish for the angler.

Many studies have been conducted to develop suitable species combinations for farm pond stocking. A few of these are largemouth bass-bluegill, largemouth bass-channel catfish, largemouth bass-crappie-catfish, largemouth bass-warmouth, and largemouth bass-bluegill and green sunfish hybrid. Of these, largemouth bass-bluegill remains most successful. Some success has also been achieved by stocking largemouth bass in combination with minnows. The disadvantage of this combination is the minnow population must be replaced at regular intervals.

Largemouth bass are without doubt the most satisfactory predator for small impoundments. They grow rapidly, consume large quantities of small fish for food, and have no difficulty reproducing in ponds. It is also one of the easiest caught predators.

Any small fish could serve as food for bass, but bluegills possess certain qualities that make it desirable for small ponds. First, it does not compete on the same food level as bass, feeding mostly on aquatic insect larvae and small crustaceans. Thereby eliminating the competition for food between the two species. Secondly, bluegills have a long spawning period which produces a continuous food supply throughout early summer.

The undesirable quality of the bluegill is its capacity to reproduce. An eight-ounce female bluegill is capable of producing 35,000 offspring in a single year. This means the population must be under constant management to control their number. A pond which is not managed will in time become overcrowded with small, stunted bluegills. The simplest means of controlling the number of bluegills in a pond is by destroying a substantial number of nests. This can be done by raking out nests as soon as eggs are observed or by adding several crystals of copper sulfate directly to the nest. Make sure, however, that you are destroying bluegill and not bass nests.

Failure of fish populations in many farm ponds is due to over stocking in the beginning. Proper ratio in stocking bass and bluegills is extremely important. The most acceptable stocking ratio is 100 fingerling bass in early summer followed by 10 pair of adult bluegills in late fall. Natural spawning of bass occurs in most ponds during the second year of life. Thus, young-of-the-year bluegills furnish food for young bass during the second year. The pond should reach maximum carrying capacity during the third year.

In newly stocked ponds, growth should be very rapid. Bass easily attain 10 inches within two years after they have been first introduced. Bluegill growth is slower, but six-inch fish should be caught during the third summer.

The potential production of fish in Iowa ponds is astounding. Experimental work in ponds in the state reveal the standing crop of fish ranges from 150 to 1,200 pounds per surface acre. Harvestable surplus of this crop could easily be 100 to 1,000 pounds without indication of overfishing. As quickly as a pound of fish is removed from the pond, weight of the remaining fish is increased to fill the void. Population weight remains constant, only the number and size of the fish in the population change.

Balance and Reproduction

Regardless of favorable conditions, the "balance" between predator and forage fish in an unmanaged pond will become upset. Many factors such as turbidity, aquatic vegetation, and water level fluctuation may indirectly influence control of this balance.

Unattended ponds as they occur in the natural state are not good fishing ponds. Bluegills rapidly become the dominant species and ultimately control the abundance of predators. When this occurs the bluegill population must be reduced and the proper balance restored. Severe cases of over-balance may warrant eradication of the entire population and restocking.

There are several simple tests that can be made by the pond ow to determine if a pond is in balance. In the early part of the sum several hauls should be made with a short, small mesh seine. A p is considered in balance if the seine hauls have numerous young- the-year bass, and a fewer number of 1-2 inch bluegills. If fingerl bass are less abundant than small bluegills, immediate steps should initiated to remove a portion of the bluegill population. One of better means of determining pond balance is to block off a small with canvas and applying a small amount of fish toxicant. The structure of all fish populations should contain more young than lar fish. Several indications of stunting include poor body condition exceptionally large eye diameter.

Pond Weeds and Fertilizer

Excessive growth of pond weeds is detrimental to pond balance a nuisance to anglers. Abundant plant growth provides shelter cover for young bluegills and in turn protect them from predat This results in increased survival and unbalanced populations. W aquatic vegetation becomes a nuisance, steps to control its abunda should be started. Control can be accomplished by mechanical or ch ical means. Small areas of the pond can be covered with sheets black polyethylene plastic until the plants die from the lack of s light. Many new chemicals are also available for control of undesira plants.

A commonly asked question is concerned with fertilization of po Treatment of ponds with nitrogen-phosphate fertilizers will not o increase basic productivity but will also measurably increase the potential of the pond. However, fertilization of most Iowa farm po is detrimental rather than advantageous. Only if the pond is at p fishery production and increased production is desired should fertili tion be considered. The quickest means of upsetting the populat balance in an unmanaged pond is through the addition of inorga fertilizer.

The vast increase in the number of farm ponds is a simple endor ment of their popularity. Management of a pond for fishing is not easy job but then after a few evenings of fishing and a stringer of bluegills it has rewards too. Like the wise adage, spoken so truly, "" good Lord put twice as much water on this earth as He did land, why shouldn't we spend twice as much time fishing as we do plowin

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HAVE YOU TENDED YOUR TIMBER LATELY?—

(Continued from page 30)

valuable white oak, thus leaving the stand predominantly white o

In TSI, trees are deadened either by poisoning, girdling or cutt them down. Where a small pole stand is being thinned, the trees to deadened are usually of no commercial value. These trees are laying in the woods. This may look unsightly at first, but in th or four years, most of the debris will be in an advanced stage of dec As these trees rot, they add much needed organic matter to the s If nature did the work the trees would eventually die and fall o also. In TSI, about ten years of mortality are taken care of in operation.

The next thinning in our Iowa hardwoods would probably take pl in about ten years. The second thinning and all thinnings thereaf would be considered commercial thinnings. Again, the trees are selec on the basis of quality and their proximity within the stand. This ti the trunks of the trees are removed for products and the tops are to be absorbed by the soil through the process of decay.

Cultural practices carried out properly assures man not only having products for his use, but good wildlife habitat also. Nut acorn producing trees will increase mast production when given s ficient growing space. Trees under intense competition do not prod the quantity of mast that vigorous trees produce. Good mast prod tion is necessary to maintain certain species of wildlife in large nu bers. Not all defective trees are removed as some must be left for trees.

A thinned timber allows a little more sunlight to come through overstory which causes an increase of growth in browse plants deer. Deer spend a good deal of time where timber has been thin because of the abundance of food.

Improved wildlife habitat, increased yield of products and healt forests result from proper care of the forest.

Any real injury to a deer's antlers while in the velvet will result in a permanent mark or deformity.

Smell is the best of the mule deer's senses. They often use their nose when they do not trust their eyes.

A mature bull elk can we up to 700 or even 1,000 pounds. cow elk is generally 25 perc smaller.

The bottom of each cloven h of the bighorn sheep is concave the edge is sharp, enabling animal to stick to the rocks.